

PCT

03500.017654

PATENT APPLICATION



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

TATSUKI FUKUI ET AL.

Int'l Application No. PCT/JP03/13532

Appln. No.: 10/531,226

Filed: October 23, 2003

For: POLYHYDROXYALKANOATE,  
PROCESS FOR PREPARING  
THE SAME, AND RESIN  
COMPOSITION CONTAINING  
THE  
POLYHYDROXYALKANOATE

Examiner: Not Yet Assigned

Group Art Unit: 1711

August 11, 2005

**Mail Stop PCT**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

SECOND INFORMATION DISCLOSURE STATEMENT

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the enclosed Form PTO-1449. Since the U.S. Patent and Trademark Office waived the requirement under 37 C.F.R. § 1.98 (a)(2)(i) for submitting a copy of each cited U.S. patent and each U.S. patent application publication for all U.S. national patent applications and for all international applications that have entered the national stage under 35 U.S.C. § 371, no copies of such documents are enclosed.

Copies of the other listed documents are enclosed.

The Examiner's attention is also directed to the following U.S. Applications:

<u>APPLICATION NO.</u>	<u>FILING DATE</u>	<u>GROUP ART UNIT</u>
10/531,572	October 23, 2003	1761
10/531,689	October 23, 2003	1645
11/062,816	February 23, 2005	1632

Since these applications are stored in the U.S. Patent and Trademark Office's IFW system, copies thereof are not enclosed due to a sua sponte waiver of 37 C.F.R. § 1.98(a)(2)(iii).

The concise explanation of relevance for the non-English documents may be found, inter alia, in the English language abstracts attached thereto and/or in the specification where they are cited. Furthermore, the concise explanation of relevance for the following non-English documents may be found in their patent family member publications as indicated in the table below.

<b>Non-English Document</b>	<b>English Language Family Member</b>
JP 7-120975	U.S. Patent No. 5,667,927
JP 2001-288256	U.S. Patent No. 6,521,429 B2 and U.S. Patent Application Publication No. 2003/0180899 A1
JP 2001-80571	U.S. Patent Nos. 6,649,381 B1 and 6,586,562 B2 and U.S. Patent Application Publication No. 2004/0067576 A1
JP 5-7492	U.S. Patent No. 5,200,332
JP 6-15604 B2	U.S. Patent No. 4,393,167
JP 7-14352 B2 and JP 8-19227 B2	U.S. Patent No. 4,876,331
JP 5-93049	U.S. Patent No. 5,292,860
JP 2642937 B2	U.S. Patent Nos. 5,135,859 and 5,334,698
JP 63-38958	U.S. Patent No. 4,795,690
JP 8-179564	U.S. Patent No. 5,612,161

CONCLUSION

It is respectfully requested that the above information be considered by the Examiner and that a copy of the enclosed Form PTO-1449 be returned indicating that such information has been considered.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Jason M. Okun", is written over a horizontal line.

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FORM PTO 1449 (modified)  U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE				ATTY DOCKET NO. <b>03500.017654</b>		APPLICATION NO. <b>10/531,226</b>	
LIST OF REFERENCES CITED BY APPLICANT(S) (Use several sheets if necessary)				APPLICANT <b>Tatsuki Fukui et al.</b>			
				FILING DATE <b>October 23, 2003</b>		GROUP <b>1711</b>	
U.S. PATENT DOCUMENTS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		6,872,788 B2	03/29/05	Imamura et al.	525	440	
		6,521,429 B2	02/18/03	Honma et al.	435	135	
		6,635,782 B2	10/21/03	Honma et al.	560	53	
		2004/0092702 A1	05/13/04	Honma et al.	528	272	
		6,911,521 B2	06/28/05	Kenmoku et al.	528	295	
		2003/0113368 A1	06/19/03	Nomoto et al.	424	450	
		2003/0194789 A1	10/16/03	Honma et al.	435	135	
		6,649,380 B1	11/18/03	Yano et al.	435	135	
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		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES/NO/ OR ABSTRACT
	JP	7-120975	05/12/95	Japan			Abstract
	JP	2001-288256	10/16/01	Japan			Abstract
	JP	2002-80571	03/19/02	Japan			Abstract
	JP	5-7492	01/19/93	Japan			Abstract
	JP	6-15604 B2	03/02/94	Japan			Abstract
OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)							
		Bruce A. Ramsay et al., "Effect of Nitrogen Limitation on Long-Side-Chain Poly- $\beta$ -Hydroxyalkanoate Synthesis by <i>Pseudomonas resinovorans</i> ," 58(2) <u>Appl. Environ. Microbiol.</u> 744-46 (1992).					
		Katharina Fritzsche et al., "An Unusual Bacterial Polyester with a Phenyl Pendant Group," 191 <u>Macromol. Chem.</u> 1957-65 (1990).					
		Y.B. Kim et al., "Preparation and Characterization of Poly( $\beta$ -Hydroxyalkanoates) Obtained from <i>Pseudomonas oleovorans</i> with Mixtures of 5-Phenylvaleric Acid and <i>n</i> -Alkanoic Acids," 24 <u>Macromol.</u> 5256-60 (1991).					
		Safwat Antoun et al., "Production of Chiral Polyester by <i>Pseudomonas oleovorans</i> Grown with 5-Phenyl-2,4-Pentadienoic Acid," 3(6) <u>Chirality</u> 492-94 (1991).					
EXAMINER				DATE CONSIDERED			

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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U.S. PATENT DOCUMENTS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		6,645,743 B1	11/11/03	Honma et al.	435	146	
		2003/0207412 A1	11/06/03	Kenmoku et al.	435	135	
		5,004,664	04/02/91	Fuller et al.	430	106.6	
		5,667,927	09/16/97	Kubota et al.	430	109	
		4,480,021	10/30/84	Lu et al.	430	106.6	
		4,442,189	04/10/84	Lu et al.	430	45	
		2003/0180899 A1	09/25/03	Honma et al.	435	135	
		6,586,562 B2	07/01/03	Honma et al.	528	361	
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	JP	7-14352 B2	02/22/95	Japan			Abstract
	JP	8-19227 B2	02/28/96	Japan			Abstract
	JP	5-93049	04/16/93	Japan			Abstract
	JP	7-265065	10/17/95	Japan			Abstract
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		Suzette M. Aróstegui et al., "Bacterial Polyesters Produced by <i>Pseudomonas oleovorans</i> Containing Nitrophenyl Groups," 32 <u>Macromol.</u> 2889-95 (1999).					
		Helmut Ritter et al., "Bacterial Production of Polyesters Bearing Phenoxy Groups in the Side Chains, 1 Poly(3-Hydroxy-5-Phenoxy-pentanoate- co-3-Hydroxy-9-Phenoxy-Nonanoate) from <i>Pseudomonas oleovorans</i> ," 195 <u>Macromol. Chem. Phys.</u> 1665-72 (1994).					
		Young Baek Kim et al., "Poly-3-hydroxyalkanoates Produced from <i>Pseudomonas oleovorans</i> Grown with $\omega$ -Polyhydroxyalkanoates," 29 <u>Macromol.</u> 3432-35 (1996).					
		Ohyoung Kim et al., "Bioengineering of Poly( $\beta$ -hydroxyalkanoates) for Advanced Material Applications: Incorporation of Cyano and Nitrophenoxy Side Chain Substituents," 41 (Supp. 1) <u>Can. J. Microbiol.</u> 32-43 (1995).					
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		6,649,381 B1	11/18/03	Honma et al.	435	135	
		2004/0067576 A1	04/08/04	Honma et al.	435	252.34	
		5,200,332	04/06/93	Yamane et al.	435	135	
		4,393,167	07/12/83	Holmes et al.	525	64	
		4,876,331	10/24/89	Doi	528	361	
		5,292,860	03/08/94	Shiotani et al.	528	361	
		5,135,859	08/04/92	Witholt et al.	435	135	
		5,334,698	08/02/94	Witholt et al.	528	354	
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	JP	9-191893	07/29/97	Japan			Abstract
	JP	2642937 B2	05/02/97	Japan			Abstract
	JP	2989175 B1	10/08/99	Japan			Abstract
	JP	6-289644	10/18/94	Japan			Abstract
	JP	8-262796	10/11/96	Japan			Abstract
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		Richard A. Gross et al., "Cyanophenoxy-Containing Microbial Polyesters: Structural Analysis, Thermal Properties, Second Harmonic Generation and In-Vivo Biodegradability," 39 <u>Polymer International</u> 205-13 (1996).					
		Marianela Andújar et al., "Polyesters Produced by <i>Pseudomonas oleovorans</i> Containing Cyclohexyl Groups," 30 <u>Macromol.</u> 1611-15 (1997).					
		M.Y. Lee et al., "Hydrophilic Bacterial Polyesters Modified with Pendant Hydroxyl Groups," 41 <u>Polymer</u> 1703-09 (2000).					
		Lindsay H. Briggs et al., "Degradation of the Lanosterol Side-chain," <u>J.C.S. Perkin I</u> , 806-09 (1973).					
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		4,795,690	01/03/89	Shindo et al.	430	109	
		5,612,161	03/18/97	Watanabe et al.	430	110	
		6,492,147 B1	12/10/02	Imamura et al.	435	135	
		4,925,765	05/15/90	Madeleine	430	110	
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		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES/NO/ OR ABSTRACT
	JP	9-274335	10/21/97	Japan			Abstract
	JP	9-281746	10/31/97	Japan			Abstract
	JP	60-108861	06/14/85	Japan			Abstract
	JP	61-3149	01/09/86	Japan			Abstract
	JP	63-38958	02/19/88	Japan			Abstract
OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)							
		J.K. Stille et al., "Tetracyclic Dienes. I. The Diels-Alder Adduct of Norbornadiene and Cyclopentadiene," 81 <u>J. Am. Chem. Soc.</u> 4273-75 (August 1959).					
		Henry J. Vogel et al., "Acetylornithinase of <i>Escherichia coli</i> : Partial Purification and Some Properties," 218 <u>J. Biol. Chem.</u> 97-106 (1956).					
		Harry R. Allcock et al., "Reactions of Steroid Salts with Hexachlorocyclotriphosphazene," 46 <u>J. Org. Chem.</u> 13-22 (1981).					
		Hideki Abe et al., "Biosynthesis from Gluconate of a Random Copolyester Consisting of 3-hydroxybutyrate and Medium-Chain-Length 3-Hydroxyalkanoates by <i>Pseudomonas</i> sp. 61-3," 16(3) <u>Int. J. Biol. Macromol.</u> 115-19 (June 1994).					
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		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES/NO/ OR ABSTRACT
	JP	63-88564	04/19/88	Japan			Abstract
	JP	7-72658	03/17/95	Japan			Abstract
	JP	8-179564	07/12/96	Japan			Abstract
	JP	2623684 B2	04/11/97	Japan			Abstract
	JP	59-190945	10/29/84	Japan			Abstract
	JP	2807795 B2	07/31/98	Japan			Abstract
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		<u>Organic Synthesis</u> , vol. 4, pp. 695-99 (1963).					
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